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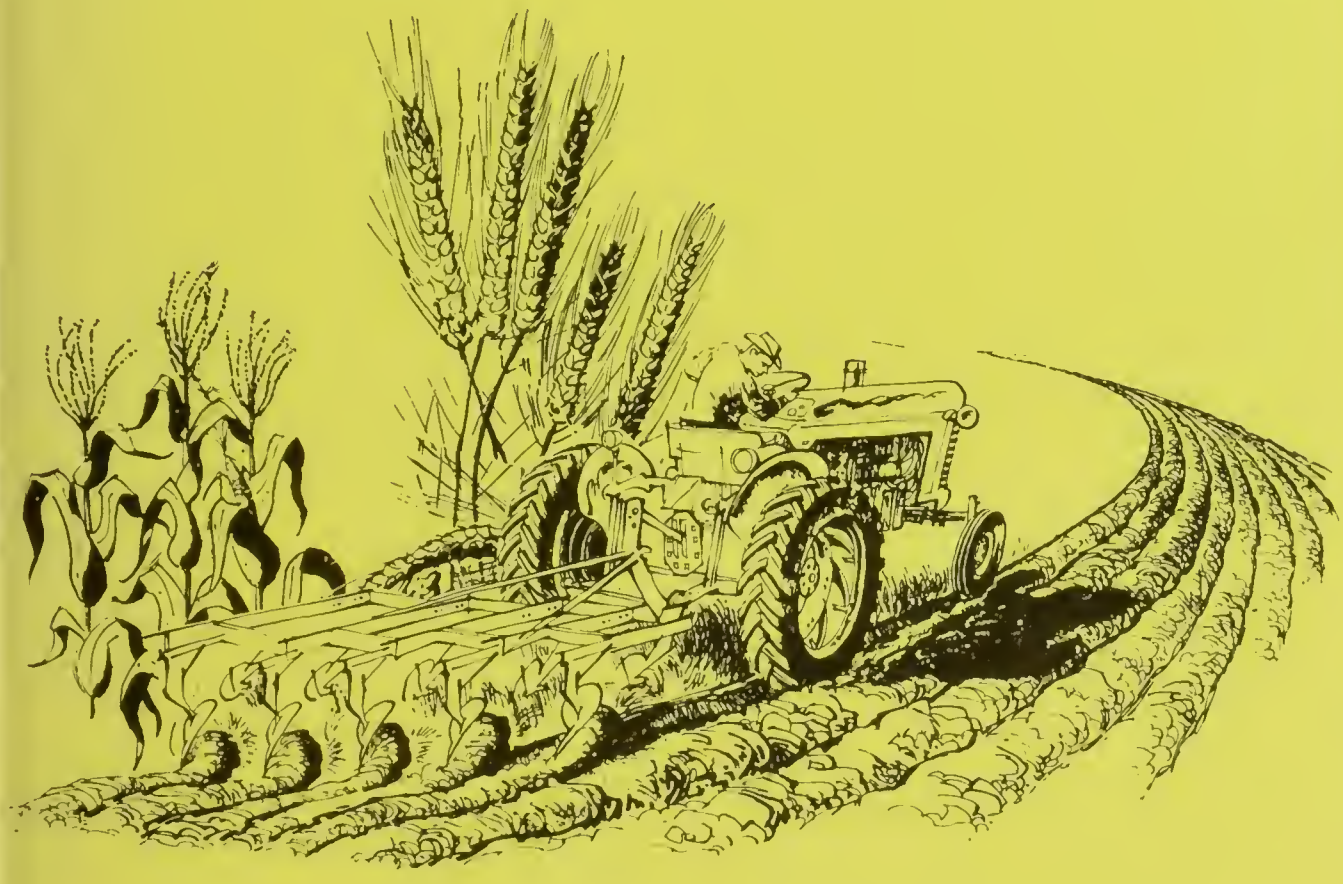
1989 MONTANA COMMERCIAL FERTILIZER REPORT



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February 1990

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This report consists of the following sections:

Fertilizer Analyses. . . . . Pages 1 - 21

Statistical. . . . . Pages 22 - 25

Abbreviations Used:

Phosphate Denotes P_2O_5 . . . . .Available Phosphoric Acid

Potash Denotes K_2O . . . . . Soluble Potash

ppm . . . . . Parts Per Million

* . . . . . .Deficiency

MANUFACTURER

AG WISE INC
P.O.BOX 109
KREMLIN,MT 59601

LIQUID FERTILIZER 20-10-0 — SAMPLED IN KREMLIN — SAMPLE # 3575

ANALYSIS	CLAIMED	FOUND
NITROGEN	20%	19.2%
PHOSPHATE	10%	10.9%

MANUFACTURER

AGRI BASICS CO
1420 MINNESOTA AVE
BILLINGS,MT 59101

CUSTOM BLENDED FERTILIZER — SAMPLED IN BILLINGS — SAMPLE # 3630

ANALYSIS	CLAIMED	FOUND
NITROGEN	31.7%	31.6%
PHOSPHATE	6.5%	7.5%

CUSTOM BLENDED FERTILIZER — SAMPLED IN BILLINGS — SAMPLE # 3749

ANALYSIS	CLAIMED	FOUND
NITROGEN	30%	30.3%
PHOSPHATE	10%	11.0%

CUSTOM BLENDED FERTILIZER — SAMPLED IN BILLINGS — SAMPLE # 3750

ANALYSIS	CLAIMED	FOUND
NITROGEN	22%	22.3%
PHOSPHATE	15%	16.2%
POTASH	11%	10.8%

CUSTOM BLENDED FERTILIZER — SAMPLED IN BILLINGS — SAMPLE # 3757

ANALYSIS	CLAIMED	FOUND
NITROGEN	19%	19.0%
PHOSPHATE	16.6%	17.6%
POTASH	16.2%	16.1%

CUSTOM BLENDED FERTILIZER — SAMPLED IN BILLINGS — SAMPLE # 3782

ANALYSIS	CLAIMED	FOUND
NITROGEN	11.3%	11.1%
PHOSPHATE	29%	27.6% *
POTASH	22%	25.3%

MANUFACTURER

AGRI BASICS CO
P.O.BOX 67
HAVRE,MT 59501

CUSTOM BLENDED FERTILIZER 29-4-0-4 SAMPLED IN SACO SAMPLE # 3237

ANALYSIS	CLAIMED	FOUND	
NITROGEN	29%	31.2%	
PHOSPHATE	4%	2.9%	*
SULFUR	4%	3.2%	*

MANUFACTURER

AGRI BASICS CO
P.O.BOX 'B'
MOORE,MT 59464

CUSTOM BLENDED FERTILIZER SAMPLED IN MOORE SAMPLE # 3780

ANALYSIS	CLAIMED	FOUND	
NITROGEN	27%	24.8%	*
PHOSPHATE	14%	21.7%	

MANUFACTURER

AGRI BASICS CO

RYEGATE,MT 59074

CUSTOM BLENDED FERTILIZER SAMPLED IN RYEGATE SAMPLE # 3710

ANALYSIS	CLAIMED	FOUND
NITROGEN	30%	29.9%
PHOSPHATE	10%	10.7%

MANUFACTURER

AGRI BASICS CO
903 EAST MAIN
SIDNEY,MT 59270

CUSTOM BLENDED FERTILIZER SAMPLED IN SIDNEY SAMPLE # 3252

ANALYSIS	CLAIMED	FOUND	
NITROGEN	21.7%	20.3%	*

CUSTOM BLENDED FERTILIZER SAMPLED IN SIDNEY SAMPLE # 3263

ANALYSIS	CLAIMED	FOUND	
NITROGEN	23%	21.9%	*
PHOSPHATE	23%	24.0%	
POTASH	5%	6.6%	

AGRI BASICS CO - SIDNEY CONTINUED

CUSTON BLENDED FERTILIZER — SAMPLED IN SIDNEY — SAMPLE # 3252

ANALYSIS	CLAIMED	FOUND
POTASH	21.7%	24.3%

MANUFACTURER

AGRI BASICS CO
P.O.BOX 577
WOLF POINT,MT 59201

CUSTOM BLENDED FERTILIZER 38-15-0 — SAMPLED IN WOLF POINT — SAMPLE # 3268

ANALYSIS	CLAIMED	FOUND	
NITROGEN	38%	36.9%	*
PHOSPHATE	15%	16.0%	

MANUFACTURER

AGRIBASICS CO
P.O.BOX 347
GERALDINE,MT 59446

AMMONIUM POLYPHOSPHATE 10-34-0 — SAMPLED IN CONRAD — SAMPLE # 3570

ANALYSIS	CLAIMED	FOUND
NITROGEN	10%	10.1%
PHOSPHATE	34%	33.2%

AMMONIUM POLYPHOSPHATE 10-34-0 3-21-89 — SAMPLED IN HAVRE — SAMPLE # 3531

ANALYSIS	CLAIMED	FOUND
NITROGEN	10%	10.3%
PHOSPHATE	34%	34.1%
pH		6.1

AMMONIUM POLYPHOSPHATE 10-34-0 4-89 — SAMPLED IN CONRAD — SAMPLE # 3542

ANALYSIS	CLAIMED	FOUND
NITROGEN	10%	10.1%
PHOSPHATE	34%	33.9%
pH		6.0

MANUFACTURER

ARCADIAN CORP
6750 POPLAR AVE., SUITE 600
MEMPHIS,TN 38138

NITROGEN FERTILIZER SOLUTION 32-0-0 — SAMPLED IN CONRAD — SAMPLE # 3569

ANALYSIS	CLAIMED	FOUND
NITROGEN	32%	32.0%

MANUFACTURER

CARGILL INC
P.O.BOX 'O'
HARLOWTON,MT 59036

CUSTOM BLENDED FERTILIZER — SAMPLED IN HARLOWTON — SAMPLE # 3627

ANALYSIS	CLAIMED	FOUND	
NITROGEN	19.6%	18.8%	*
PHOSPHATE	15.9%	14.5%	*
POTASH	13.0%	16.1%	

MANUFACTURER

CARGILL INC
P.O.BOX 779
LEWISTOWN,MT 59457

UREA 46-0-0 delivered to Producer — SAMPLED IN LEWISTOWN — SAMPLE # 3628

ANALYSIS	CLAIMED	FOUND
NITROGEN	46%	46.3%

MANUFACTURER

CARGILL, INC
P.O.BOX 5602
MINNEAPOLIS,MN 55440

GARDINIER DIAMMONIUM PHOSPHATE 18-46-0 — SAMPLED IN HAVRE — SAMPLE # 3530

ANALYSIS	CLAIMED	FOUND
NITROGEN	18%	18.3%
PHOSPHATE	46%	47.0%

MANUFACTURER

CASCADE FERTILIZER LTD
P.O.BOX 40
STANDARD,ALBT T0J 3G0
CANADA

CLEAR LIQUID FERTILIZER 28-0-0 — SAMPLED IN CONRAD — SAMPLE # 3545

ANALYSIS	CLAIMED	FOUND
NITROGEN	28%	28.1%

UREA-AMMONIUM NITRATE NITROGEN SOLN 28-0-0 — SAMPLED IN CONRAD — SAMPLE # 3572

ANALYSIS	CLAIMED	FOUND
NITROGEN	28%	28.0%

MANUFACTURER

CENEX LTD.
55 4th AVE. E.N.
KALISPELL,MT 59901

CUSTOM BLENDED FERTILIZER 5.9-28.1-27.6 SAMPLED IN KALISPELL SAMPLE # 3413

ANALYSIS	CLAIMED	FOUND
POTASH	27.6%	28.7%
NITROGEN	5.9%	6.1%
PHOSPHATE	28.1%	28.9%

MANUFACTURER

CENEX/ LAND O'LAKES AGRONOMY
P.O.BOX 64089
ST. PAUL,MN 55164

AMMONIUM PHOSPHATE 16-20-0-15 SAMPLED IN STEVENSVILLE SAMPLE # 3432

ANALYSIS	CLAIMED	FOUND
NITROGEN	16%	16.7%
PHOSPHATE	20%	20.7%
SULFUR	15%	14.8%

AMMONIUM SULFATE 21-0-0-24 SAMPLED IN STEVENSVILLE SAMPLE # 8648

ANALYSIS	CLAIMED	FOUND
NITROGEN	21%	21.1%
SULFUR	24%	24.6%

AMMONIUM SULFATE 21-0-0-24 SAMPLED IN POWER SAMPLE # 3550

ANALYSIS	CLAIMED	FOUND
NITROGEN	21%	21.0%
SULFUR	24%	24.7%

CFI TRIPLE SUPERPHOSPHATE 0-44-0 SAMPLED IN LAMBERT SAMPLE # 3258

ANALYSIS	CLAIMED	FOUND
PHOSPHATE	44%	44.5%

CFI UREA 46-0-0 SAMPLED IN WOLF POINT SAMPLE # 3247

ANALYSIS	CLAIMED	FOUND
NITROGEN	46%	46.0%

CFI UREA 46-0-0 SAMPLED IN PLENTYWOOD SAMPLE # 3256

ANALYSIS	CLAIMED	FOUND
NITROGEN	46%	46.1%

CEMEX/ LAND O'LAKES AGRONOMY - ST. PAUL CONTINUED

CFI UREA 46-0-0 — SAMPLED IN GREAT FALLS — SAMPLE # 3910

ANALYSIS	CLAIMED	FOUND
NITROGEN	46%	45.9%

CHEVRON AMMONIUM NITRATE 34-0-0 — SAMPLED IN KALISPELL — SAMPLE # 3414

ANALYSIS	CLAIMED	FOUND
NITROGEN	34%	33.9%

CHEVRON MONOAMMONIUM PHOSPHATE 11-52-0 — SAMPLED IN KALISPELL — SAMPLE # 3411

ANALYSIS	CLAIMED	FOUND
NITROGEN	11%	11.1%
PHOSPHATE	52%	52.8%

CHEVRON MONOAMMONIUM PHOSPHATE 11-52-0 — SAMPLED IN HAVRE — SAMPLE # 3573

ANALYSIS	CLAIMED	FOUND
NITROGEN	11%	11.2%
PHOSPHATE	52%	52.2%

DIAMMONIUM PHOSPHATE 18-46-0 — SAMPLED IN PLENTYWOOD — SAMPLE # 3253

ANALYSIS	CLAIMED	FOUND
NITROGEN	18%	17.9%
PHOSPHATE	46%	46.4%

KALIUM POTASH — SAMPLED IN KALISPELL — SAMPLE # 3412

ANALYSIS	CLAIMED	FOUND
POTASH	62%	62.0%

KALIUM POTASH 62-0-0 — SAMPLED IN POWER — SAMPLE # 3547

ANALYSIS	CLAIMED	FOUND
POTASH	62%	62.4%

MONOAMMONIUM PHOSPHATE 11-52-0 — SAMPLED IN STEVENSVILLE — SAMPLE # 3430

ANALYSIS	CLAIMED	FOUND
NITROGEN	11%	11.0%
PHOSPHATE	52%	52.3%

MONOAMMONIUM PHOSPHATE 11-51-0 — SAMPLED IN OUTTON — SAMPLE # 3559

ANALYSIS	CLAIMED	FOUND
NITROGEN	11%	11.2%
PHOSPHATE	51%	51.0%

CENEX/ LAND O'LAKES AGRONOMY - ST. PAUL CONTINUED

MONOAMMONIUM PHOSPHATE 11-52-0 — SAMPLED IN DUTTON — SAMPLE # 3536

ANALYSIS	CLAIMED	FOUND	
NITROGEN	11%	12.1%	
PHOSPHATE	52%	50.2%	*

MONOAMMONIUM PHOSPHATE 11-52-0 — SAMPLED IN POWER — SAMPLE # 3549

ANALYSIS	CLAIMED	FOUND
NITROGEN	11%	11.1%
PHOSPHATE	52%	52.0%

NU WEST DIAMMONIUM PHOSPHATE 18-46-0 — SAMPLED IN HAVRE — SAMPLE # 3574

ANALYSIS	CLAIMED	FOUND
NITROGEN	18%	17.9%
PHOSPHATE	46%	46.2%

SIMPLOT DIAMMONIUM PHOSPHATE 18-46-0 — SAMPLED IN CIRCLE — SAMPLE # 3255

ANALYSIS	CLAIMED	FOUND
NITROGEN	18%	18.1%
PHOSPHATE	46%	46.6%

SIMPLOT MONOAMMONIUM PHOSPHATE 11-52-0 — SAMPLED IN CIRCLE — SAMPLE # 3254

ANALYSIS	CLAIMED	FOUND
NITROGEN	11%	10.9%
PHOSPHATE	52%	52.2%

SIMPLOT POTASH 0-0-60 — SAMPLED IN CIRCLE — SAMPLE # 3251

ANALYSIS	CLAIMED	FOUND
POTASH	60%	61.0%

TRIPLE SUPER PHOSPHATE 0-44-0 — SAMPLED IN STEVENSVILLE — SAMPLE # 3431

ANALYSIS	CLAIMED	FOUND
PHOSPHATE	44%	44.3%

UREA 46-0-0 — SAMPLED IN STEVENSVILLE — SAMPLE # 3434

ANALYSIS	CLAIMED	FOUND
NITROGEN	46%	46.0%

MANUFACTURER

CENEX/LAND O'LAKES AGRONOMY
P.O.BOX 1322
BILLINGS,MT 59103

CENEX/LAND O'LAKES AGRONOMY - BILLINGS CONTINUED

AMMONIUM NITRATE FERTILIZER — SAMPLED IN BILLINGS — SAMPLE # 3751

ANALYSIS	CLAIMED	FOUND
NITROGEN	34.5%	34.4%

CUSTOM BLENDED FERTILIZER — SAMPLED IN BILLINGS — SAMPLE # 3747

ANALYSIS	CLAIMED	FOUND
NITROGEN	18.9%	19.6%
PHOSPHATE	28.5%	27.3%
POTASH	4.7%	4.2%
SULFUR	4.7%	5.1%

MANUFACTURER

CENEX/LAND O'LAKES AGRONOMY
P.O.BOX 215
LAMBERT,MT 59243

CUSTOM BLENDED FERTILIZER — SAMPLED IN LAMBERT — SAMPLE # 3257

ANALYSIS	CLAIMED	FOUND
NITROGEN	14%	14.1%
PHOSPHATE	36%	37.0%
POTASH	13%	13.0%

MANUFACTURER

CHEVRON CHEM CO; CONSUMER PROD
15049 SAN PABLO AVE
RICHMOND,CA 94804

ORTHO BULB FOOD 4-12-8 — SAMPLED IN MONTANA — SAMPLE # 3245

ANALYSIS	CLAIMED	FOUND
NITROGEN	4%	4.8%
PHOSPHATE	12%	12.6%
POTASH	8%	7.9%

ORTHO MULTI PURPOSE LAWN & GARDERN FERTILIZER — SAMPLED IN MONTANA — SAMPLE # 3713

ANALYSIS	CLAIMED	FOUND
NITROGEN	16%	15.9%
PHOSPHATE	16%	16.4%
POTASH	16%	17.1%
SULFUR	2.7%	3.1%

MANUFACTURER

CHEVRON CHEM- FERTILIZER DIV
P.O.BOX 5047
SAN RAMON,CA 94583

CHEVRON CHEM- FERTILIZER DIV - SAN RAMON CONTINUED

AMMONIUM NITRATE 34-0-0 — SAMPLED IN KALISPELL — SAMPLE # 3416

ANALYSIS	CLAIMED	FOUND
NITROGEN	34%	34.0%

AMMONIUM NITRATE 34-0-0 — SAMPLED IN STEVENSVILLE — SAMPLE # 3436

ANALYSIS	CLAIMED	FOUND
NITROGEN	34%	34.0%

AMMONIUM PHOSPHATE 16-20-0-15 — SAMPLED IN CONRAD — SAMPLE # 3566

ANALYSIS	CLAIMED	FOUND
NITROGEN	16%	16.3%
PHOSPHATE	20%	20.5%
SULFUR	15%	15.1%

DIAMMONIUM PHOSPHATE 18-46-0 — SAMPLED IN CONRAD — SAMPLE # 3565

ANALYSIS	CLAIMED	FOUND
NITROGEN	18%	17.9%
PHOSPHATE	46%	46.4%

DIAMMONIUM PHOSPHATE 18-46-0 — SAMPLED IN MALTA — SAMPLE # 3228

ANALYSIS	CLAIMED	FOUND
NITROGEN	18%	17.9%
PHOSPHATE	46%	46.0%

DIAMMONIUM PHOSPHATE 18-46-0 — SAMPLED IN CONRAD — SAMPLE # 3540

ANALYSIS	CLAIMED	FOUND
NITROGEN	18%	17.9%
PHOSPHATE	46%	46.5%

MONAMMONIUM PHOSPHATE 11-52-0 — SAMPLED IN CONRAD — SAMPLE # 3539

ANALYSIS	CLAIMED	FOUND
NITROGEN	11%	11.1%
PHOSPHATE	52%	52.4%

MONOAMMONIUM PHOSPHATE 11-52-0 — SAMPLED IN CONRAD — SAMPLE # 3567

ANALYSIS	CLAIMED	FOUND
NITROGEN	11%	11.2%
PHOSPHATE	52%	52.3%

MONOAMMONIUM PHOSPHATE 11-52-0 — SAMPLED IN GLASGOW — SAMPLE # 3232

ANALYSIS	CLAIMED	FOUND
NITROGEN	11%	11.3%
PHOSPHATE	52%	53.3%

CHEVRON CHEM- FERTILIZER DIV - SAN RAMON CONTINUED

MONOAMMONIUM PHOSPHATE 11-52-0 — SAMPLED IN CHOTEAU — SAMPLE # 3556

ANALYSIS	CLAIMED	FOUND
NITROGEN	11%	11.0%
PHOSPHATE	52%	52.1%

MANUFACTURER

CONINCO AMERICAN INC
P.O.BOX 3087
SPOKANE,WA 99220

AMMONIUM PHOSPHATE 16-20-0-15 — SAMPLED IN KALISPELL — SAMPLE # 3417

ANALYSIS	CLAIMED	FOUND
NITROGEN	16%	16.1%
PHOSPHATE	20%	21.3%
SULFUR	15%	14.8%

AMMONIUM SULFATE 21-0-0-24 — SAMPLED IN KALISPELL — SAMPLE # 3421

ANALYSIS	CLAIMED	FOUND
NITROGEN	21%	20.9%
SULFUR	24%	24.5%

MONOAMMONIUM PHOSPHATE 11-52-0 — SAMPLED IN KALISPELL — SAMPLE # 3415

ANALYSIS	CLAIMED	FOUND
NITROGEN	11%	11.1%
PHOSPHATE	52%	52.1%

POTASSIUM CHLORIDE (POTASH) — SAMPLED IN KALISPELL — SAMPLE # 3418

ANALYSIS	CLAIMED	FOUND
POTASH	60%	60.6%

MANUFACTURER

CONAGRA CHEMICAL FERTILIZER CO
P.O.BOX 176
DUTTON,MT 59433

AMMONIUM NITRATE 34-0-0 — SAMPLED IN BILLINGS — SAMPLE # 3770

ANALYSIS	CLAIMED	FOUND
NITROGEN	34.5%	34.5%

AMMONIUM NITRATE 34-0-0 — SAMPLED IN GREAT FALLS — SAMPLE # 3909

ANALYSIS	CLAIMED	FOUND
NITROGEN	34%	34.2%

CONAGRA CHEMICAL FERTILIZER CO - DUTTON CONTINUED

MONOAMMONIUM PHOSPHATE 12-51-0 SAMPLED IN CONRAD SAMPLE # 3571

ANALYSIS	CLAIMED	FOUND
NITROGEN	12%	11.9%
PHOSPHATE	51%	51.4%

MANUFACTURER

FARMERS UNION SOIL SERVICE
P.O.BOX 2483
GREAT FALLS,MT 59403

CUSTOM BLENDED FERTILIZER SAMPLED IN GREAT FALLS SAMPLE # 3535

ANALYSIS	CLAIMED	FOUND
NITROGEN	28%	28.6%
PHOSPHATE	3.6%	4.3%
SULFUR	8%	7.9%

CUSTOM BLENDED FERTILIZER 25-25-0 SAMPLED IN GREAT FALLS SAMPLE # 3588

ANALYSIS	CLAIMED	FOUND
NITROGEN	25%	25.2%
PHOSPHATE	25%	25.1%

MANUFACTURER

GREENACRES GYPSUM & LIME CO
P.O.BOX 250
GREENACRES,WA 99016

GYPSUM SAMPLED IN KALISPELL SAMPLE # 3419

ANALYSIS	CLAIMED	FOUND
SULFUR	16%	16.1%

MANUFACTURER

HI LINE FERTILIZER INC
P.O.BOX 228
HINGHAM,MT 59528

AMMONIUM POLYPHOSPHATE 10-34-0 6-89 SAMPLED IN HINGHAM SAMPLE # 3533

ANALYSIS	CLAIMED	FOUND
NITROGEN	10%	10.1%
PHOSPHATE	34%	33.9%
pH		6.1

BLENDED LIQUIDED FERTILIZER 7-21-7 4-11-89 SAMPLED IN CONRAD SAMPLE # 3546

ANALYSIS	CLAIMED	FOUND
NITROGEN	7%	7.0%
PHOSPHATE	21%	17.1% *

HI LINE FERTILIZER INC - HINGHAM CONTINUED

BLENDED LIQUIDED FERTILIZER 7-21-7 4-11-89 CONTINUED

ANALYSIS	CLAIMED	FOUND	
POTASH	7%	5.9%	*

MANUFACTURER

HOWARD JOHNSON'S ENTERPRISES
161 W.WISCONSIN AVE, STE 4006
MILWAUKEE,WI 53203

LAWN GROOM 26-3-3 SAMPLED IN MONTANA SAMPLE # 3250

ANALYSIS	CLAIMED	FOUND
NITROGEN	26%	25.9%
PHOSPHATE	3%	3.9%
POTASH	3%	4.0%

MANUFACTURER

HYPONEX CORP
3489 SAWMILL ROAD
COPLEY,OH 44321

TOMATO FERTILIZER SPIKES SAMPLED IN MONTANA SAMPLE # 3243

ANALYSIS	CLAIMED	FOUND
NITROGEN	10%	12.4%
PHOSPHATE	24%	26.5%
POTASH	8%	9.7%

MANUFACTURER

HYSHAM COMMUNITY ELEVATOR
P.O.BOX 389
HYSHAM,MT 59038

AMMONIUM NITRATE delivered to Producer SAMPLED IN HYSHAM SAMPLE # 3766

ANALYSIS	CLAIMED	FOUND
NITROGEN	34%	34.2%

MANUFACTURER

J.R.SIMPLOT CO
P.O.BOX 912
POCATELLO,ID 83204

AMMONIUM NITRATE 34-0-0 SAMPLED IN GLASGOW SAMPLE # 3233

ANALYSIS	CLAIMED	FOUND
NITROGEN	34%	34.2%

J.R.SIMPLOT CO - POCATELLO CONTINUED

AMMONIUM PHOSPHATE 16-20-0-15 — SAMPLED IN STEVENSVILLE — SAMPLE # 3437

ANALYSIS	CLAIMED	FOUND
NITROGEN	16%	16.5%
PHOSPHATE	20%	20.4%
SULFUR	15%	15.5%

AMMONIUM PHOSPHATE SULFATE 16-20-0-15 — SAMPLED IN DUTTON — SAMPLE # 3537

ANALYSIS	CLAIMED	FOUND
NITROGEN	16%	16.6%
PHOSPHATE	20%	21.1%
SULFUR	15%	15.3%

AMMONIUM PHOSPHATE-SULFATE 16-20-0-15 — SAMPLED IN BILLINGS — SAMPLE # 3783

ANALYSIS	CLAIMED	FOUND
NITROGEN	16%	16.0%
PHOSPHATE	20%	20.4%
SULFUR	15%	15.4%

DIAMMONIUM PHOSPHATE 18-46-89 — SAMPLED IN RICHEY — SAMPLE # 3262

ANALYSIS	CLAIMED	FOUND
NITROGEN	18%	18.1%
PHOSPHATE	46%	46.6%

DIAMMONIUM PHOSPHATE 18-46-0 — SAMPLED IN WOLF PDINT — SAMPLE # 3231

ANALYSIS	CLAIMED	FOUND
NITROGEN	18%	18.2%
PHOSPHATE	46%	47.1%

DIAMMONIUM PHOSPHATE 18-46-0 — SAMPLED IN WOLF POINT — SAMPLE # 3246

ANALYSIS	CLAIMED	FOUND
NITROGEN	18%	18.0%
PHOSPHATE	46%	46.1%

DIAMMONIUM PHOSPHATE 18-46-0 — SAMPLED IN CONRAD — SAMPLE # 3538

ANALYSIS	CLAIMED	FOUND
NITROGEN	18%	18.0%
PHOSPHATE	46%	46.7%

DIAMMONIUM PHOSPHATE 18-46-0 — SAMPLED IN BILLINGS — SAMPLE # 3756

ANALYSIS	CLAIMED	FOUND
NITROGEN	18%	18.1%
PHOSPHATE	46%	46.9%

J.R.SIMPLOT CO - POCATELLO CONTINUED

MONO AMMONIUM PHOSPHATE 11-52-0 — SAMPLED IN STEVENSVILLE — SAMPLE # 3435

ANALYSIS	CLAIMED	FOUND
NITROGEN	11%	11.1%
PHOSPHATE	52%	53.0%

MONOAMMONIUM PHOSPHATE 11-52-0 — SAMPLED IN WOLF POINT — SAMPLE # 3229

ANALYSIS	CLAIMED	FOUND
NITROGEN	11%	11.1%
PHOSPHATE	52%	52.0%

MONOAMMONIUM PHOSPHATE 11-52-0 — SAMPLED IN RICHEY — SAMPLE # 3261

ANALYSIS	CLAIMED	FOUND
NITROGEN	11%	11.1%
PHOSPHATE	52%	52.4%

MONOAMMONIUM PHOSPHATE 11-52-0 — SAMPLED IN HAVRE — SAMPLE # 3532

ANALYSIS	CLAIMED	FOUND
NITROGEN	11%	11.3%
PHOSPHATE	52%	52.4%

MONOAMMONIUM PHOSPHATE 11-52-0 — SAMPLED IN VALIER — SAMPLE # 3554

ANALYSIS	CLAIMED	FOUND
NITROGEN	11%	11.0%
PHOSPHATE	52%	52.4%

PHOSPHORIC ACID 0-52-0 — SAMPLED IN CONRAD — SAMPLE # 3544

ANALYSIS	CLAIMED	FOUND
PHOSPHATE	52%	54.7%

PHOSPHORIS ACID 0-52-0 — SAMPLED IN BILLINGS — SAMPLE # 3785

ANALYSIS	CLAIMED	FOUND
PHOSPHATE	52%	53.2%

UREA 46-0-0 — SAMPLED IN WOLF POINT — SAMPLE # 3230

ANALYSIS	CLAIMED	FOUND
NITROGEN	46%	46.2%

UREA 46-0-0 — SAMPLED IN RICHEY — SAMPLE # 3260

ANALYSIS	CLAIMED	FOUND
NITROGEN	46%	46.0%

MANUFACTURER

J.R.SIMPLOT SOIL SERVICE
P.O.BOX 20363
BILLINGS,MT 59104

CUSTOM BLENDED FERTILIZER — SAMPLED IN BILLINGS — SAMPLE # 3748

ANALYSIS	CLAIMED	FOUND	
NITROGEN	25%	25.8%	
PHOSPHATE	25%	24.2%	*

MANUFACTURER

KERLEY CHEMICAL
RT.2; P.O.BOX 2854
KENNEWICK,WA 99337

AMMONIUM THIOSULFATE 12-0-0-26 — SAMPLED IN CONRAD — SAMPLE # 3548

ANALYSIS	CLAIMED	FOUND
NITROGEN	12%	11.9%
SULFUR	26%	26.1%

MANUFACTURER

LANNERS FEED & SEED
DRAWER 729
HARLOWTON,MT 59036

CUSTOM BLENDED FERTILIZER — SAMPLED IN HARLOWTON — SAMPLE # 3763

ANALYSIS	CLAIMED	FOUND	
NITROGEN	6.5%	4.7%	*
PHOSPHATE	30.7%	21.7%	*
POTASH	25.4%	37.9%	

MANUFACTURER

LaROCHE INDUSTRIES INC
1165 NORTH 1600 WEST
OREM,UT 84057

AMMONIUM NITRATE 34-0-0 — SAMPLED IN CONRAD — SAMPLE # 3541

ANALYSIS	CLAIMED	FOUND
NITROGEN	34%	34.5%

C.I.L. AMMONIUM NITRATE 34-0-0 — SAMPLED IN CHOTEAU — SAMPLE # 3557

ANALYSIS	CLAIMED	FOUND
NITROGEN	34%	34.5%

MANUFACTURER

MONTANA SULFUR & CHEMICAL CO
P.O.BOX 31118
BILLINGS,MT 59107

DISINTEGRATING SULFUR GRANULES — SAMPLED IN KALISPELL — SAMPLE # 3420

ANALYSIS	CLAIMED	FOUND
SULFUR	90%	90.1%

MANUFACTURER

NORTHERN AG SERVICE
P.O.BOX 1390
MALTA,MT 59538

CUSTOM BLENDED FERTILIZER — SAMPLED IN MALTA — SAMPLE # 1416

ANALYSIS	CLAIMED	FOUND
NITROGEN	14%	14.0%
PHOSPHATE	18%	20.6%

MANUFACTURER

NU-WEST IND. INC
8400 E.PRENTICE AVE, STE 1320
ENGLEWOOD,CO 80111

DIAMMONIUM PHOSPHATE 18-46-0 — SAMPLED IN BILLINGS — SAMPLE # 3623

ANALYSIS	CLAIMED	FOUND
NITROGEN	18%	18.0%
PHOSPHATE	46%	46.6%

DIAMMONIUM PHOSPHATE 18-46-0 — SAMPLED IN BILLINGS — SAMPLE # 3769

ANALYSIS	CLAIMED	FOUND
NITROGEN	18%	17.9%
PHOSPHATE	46%	46.0%

MONAMMONIUM PHOSPHATE 11-52-0 — SAMPLED IN FORT BENTON — SAMPLE # 3564

ANALYSIS	CLAIMED	FOUND
NITROGEN	11%	11.1%
PHOSPHATE	52%	52.4%

MONOAMMONIUM PHOSPHATE 11-52-0 — SAMPLED IN BILLINGS — SAMPLE # 3768

ANALYSIS	CLAIMED	FOUND
NITROGEN	11%	11.3%
PHOSPHATE	52%	52.2%

MANUFACTURER

O.M.SCOTT & SONS CO
14310 SCOTTSLAWN
MARYSVILLE,OH 43041

BURPEE GROW-FLOWERS 18-12-12 SAMPLED IN MONTANA SAMPLE # 3244

ANALYSIS	CLAIMED	FOUND
NITROGEN	18%	18.1%
PHOSPHATE	12%	15.0%
POTASH	12%	14.3%

MANUFACTURER

PAX COMPANY
580 WEST 13TH SOUTH
SALT LAKE CITY,UT 84115

MOUNTAIN GREEN ALL PURPOSE FERTILIZER 16-16-16 SAMPLED IN MONTANA SAMPLE # 3635

ANALYSIS	CLAIMED	FOUND
NITROGEN	16%	16.5%
PHOSPHATE	16%	16.3%
POTASH	16%	16.5%
SULFUR	2%	7.7%

MOUNTAIN GREEN LAWN FOOD 25-5-5 SAMPLED IN MONTANA SAMPLE # 3712

ANALYSIS	CLAIMED	FOUND
NITROGEN	25%	25.5%
PHOSPHATE	5%	6.5%
POTASH	5%	5.1%

MANUFACTURER

PETERS FERTILIZER PRODUCTS
570 GRANT WAY
FOGELSVILLE,PA 18051

GENERAL PURPOSE FERTILIZER 20-20-20 SAMPLED IN MONTANA SAMPLE # 3632

ANALYSIS	CLAIMED	FOUND
NITROGEN	20%	19.7%
PHOSPHATE	20%	20.9%
POTASH	20%	20.9%

PEAT-LITE SPECIAL 20-10-20 LOT # 905837 SAMPLED IN MONTANA SAMPLE # 3633

ANALYSIS	CLAIMED	FOUND
NITROGEN	20%	20.6%
PHOSPHATE	10%	10.7%
POTASH	20%	20.2%

PETERS FERTILIZER PRODUCTS - FOGELSVILLE CONTINUED

PETERS PROFESSIONAL 15-15-15 LOT # 706320 SAMPLED IN MONTANA SAMPLE # 3620

ANALYSIS	CLAIMED	FOUND
NITROGEN	15%	17.3%
PHOSPHATE	15%	17.7%
POTASH	15%	17.9%

MANUFACTURER

PLANTABBS CORP
P.O.BOX 397
TIMONIUM,MD 21093

PLANTABBS 11-15-20 SAMPLED IN MONTANA SAMPLE # 3248

ANALYSIS	CLAIMED	FOUND
NITROGEN	11%	11.9%
PHOSPHATE	15%	15.2%
POTASH	20%	20.8%

MANUFACTURER

SELSTAD SOIL SERVICE
R.R. 5045
GREAT FALLS,MT 59401

AMMONIUM POLYPHOSPHATE 10-34-0 4-8-89 SAMPLED IN GREAT FALLS SAMPLE # 3534

ANALYSIS	CLAIMED	FOUND	
NITROGEN	10%	9.0%	*
PHOSPHATE	34%	34.0%	
pH		5.6	

MANUFACTURER

SHERRITT FERTILIZER INC
7017 N.E.HIGHWAY 99, SUITE 106
VANCOUVER,WA 98665

AMMONIUM SULFATE 21-0-0-24 SAMPLED IN CHOTEAU SAMPLE # 3558

ANALYSIS	CLAIMED	FOUND
NITROGEN	21%	21.0%
SULFUR	24%	24.7%

AMMONIUM SULFATE 21-0-0-24 SAMPLED IN LAMBERT SAMPLE # 3259

ANALYSIS	CLAIMED	FOUND
NITROGEN	21%	21.0%
SULFUR	24%	24.7%

SHERRITT FERTILIZER INC - VANCOUVER CONTINUED

AMMONIUM SULFATE PHOSPHATE 19-3-0-22 SAMPLED IN GREAT FALLS SAMPLE # 3560

ANALYSIS	CLAIMED	FOUND
NITROGEN	19%	19.1%
PHOSPHATE	3%	2.4%
SULFUR	22%	22.2%

UREA-AMMONIUM NITRATE LIQUID FERTILIZER SAMPLED IN CONRAD SAMPLE # 3543

ANALYSIS	CLAIMED	FOUND
NITROGEN	28%	28.1%

MANUFACTURER

SIERRA CHEMICAL CO
P.O.BOX 4003
MILPITAS,CA 95035

OSMOCOTE CONT REL FERTILIZER LOT # 029501 SAMPLED IN MONTANA SAMPLE # 3715

ANALYSIS	CLAIMED	FOUND
NITROGEN	14%	14.4%
PHOSPHATE	14%	15.2%
POTASH	14%	15.0%

OSMOCOTE CONT REL FERTILIZER LOT # 019148 SAMPLED IN MONTANA SAMPLE # 3716

ANALYSIS	CLAIMED	FOUND
NITROGEN	18%	18.5%
PHOSPHATE	6%	7.4%
POTASH	12%	13.3%

MANUFACTURER

STERN'S MIRACLE GRO PRODUCTS I
800 PORT WASHINGTON BLVD
PORT WASHINGTON,NY 11050

MIRACLE GRO 15-30-15 LOT # 6196F7 SAMPLED IN MONTANA SAMPLE # 3249

ANALYSIS	CLAIMED	FOUND
NITROGEN	15%	14.9%
PHOSPHATE	30%	32.5%
POTASH	15%	17.6%

MANUFACTURER

THE CHAS. M. LILLY CO
7737 N.E. KILLINGSWORTH
PORTLAND,OR 97218

THE CHAS. M. LILLY CO - PORTLAND CONTINUED

REGAL GREEN LAWN FOOD LOT # 2507-2 CZ019 SAMPLED IN MONTANA SAMPLE # 3711

ANALYSIS	CLAIMED	FOUND	
NITROGEN	22%	28.0%	
PHOSPHATE	4%	4.3%	
POTASH	4%	4.8%	
SULFUR	12%	11.2%	
IRON	5%	2.5%	*

SEED & SOD STARTER PLUS 14-24-14 SAMPLED IN MONTANA SAMPLE # 3714

ANALYSIS	CLAIMED	FOUND	
NITROGEN	14%	15.4%	
PHOSPHATE	24%	25.9%	
POTASH	14%	12.1%	*
IRON	1%	1.1%	

MANUFACTURER

TRI COUNTY COOP
P.O.BOX 288
HYSHAM,MT 59038

CUSTOM BLENDED FERTILIZER SAMPLED IN HYSHAM SAMPLE # 3765

ANALYSIS	CLAIMED	FOUND
NITROGEN	24%	24.3%
PHOSPHATE	9.6%	9.75%
POTASH	11.6%	12.08%

MANUFACTURER

TRI-ANGLE AG SUPPLY
P.O.BOX 1426
CONRAD,MT 59425

BLENDED LIQUID FERTILIZER 8-0-0-9 SAMPLED IN CONRAD SAMPLE # 3568

ANALYSIS	CLAIMED	FOUND
NITROGEN	8%	7.9%
SULFUR	9%	9.0%

MANUFACTURER

VALCO AGRI SERVICE INC
P.O.BOX 129
GLASGOW,MT 59230

LAWN FERTILIZER 24-11-8-4 SAMPLED IN GLASGOW SAMPLE # 3269

ANALYSIS	CLAIMED	FOUND	
NITROGEN	23%	21.8%	*
PHOSPHATE	11%	12.4%	
POTASH	8%	9.5%	
SULFUR	4%	4.3%	

VALCO AGRI SERVICE INC - GLASGOW CONTINUED

LAWN FERTILIZER 17-32-10-4 SAMPLED IN GLASGOW SAMPLE # 3270

ANALYSIS	CLAIMED	FOUND	
NITROGEN	17%	15.3%	*
PHOSPHATE	32%	29.2%	*
POTASH	10%	8.2%	*
SULFUR	4%	4.5%	

MANUFACTURER

WILLIAMS FEED INC
235 N. IDAHO
DILLON,MT 59725

CUSTOM BLENDED FERTILIZER 32.5-11.6-0 SAMPLED IN DILLON SAMPLE # 1760

ANALYSIS	CLAIMED	FOUND
NITROGEN	32.5%	32.4%
PHOSPHATE	11.6%	13.7%
SULFUR	4.6%	4.8%

1989 FERTILIZER ANALYSIS BREAKDOWN

FERTILIZER SAMPLING

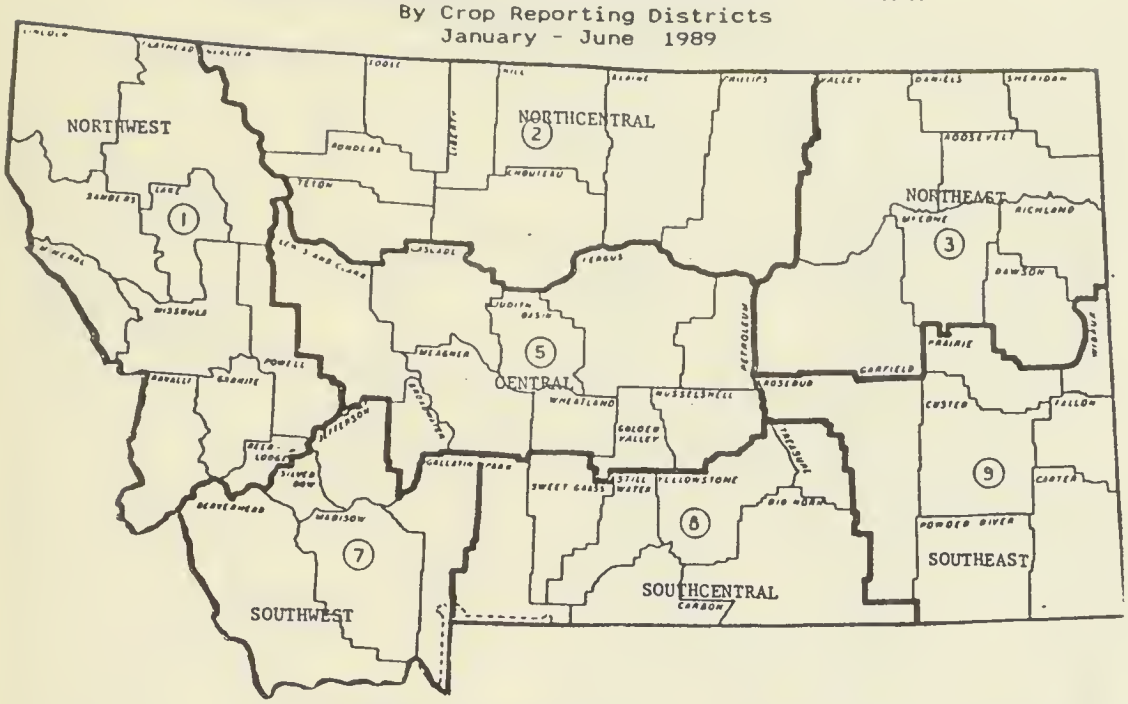
Nutrient	# Analyzed	# Deficient	% Deficient
Nitrogen	116	9	7.8
Phosphate	91	9	9.9
Potash	34	3	8.8
Sulfur	25	1	4.0
Iron	2	1	-
pH	3	-	-
Total	271	23	8.5

Year	# Samples Taken	# Samples Deficient	Deficient
1977	448	32	7.1
1978	533	30	5.6
1979	365	21	5.7
1980	506	27	5.3
1981	428	24	5.1
1982	607	41	6.7
1983	558	50	8.9
1984	379	58	15.3
1985	368	55	14.9
1986	228	43	18.9
1987	175	25	14.3
1988	228	18	7.9
1989	128	17	13.3

FERTILIZER TONNAGE

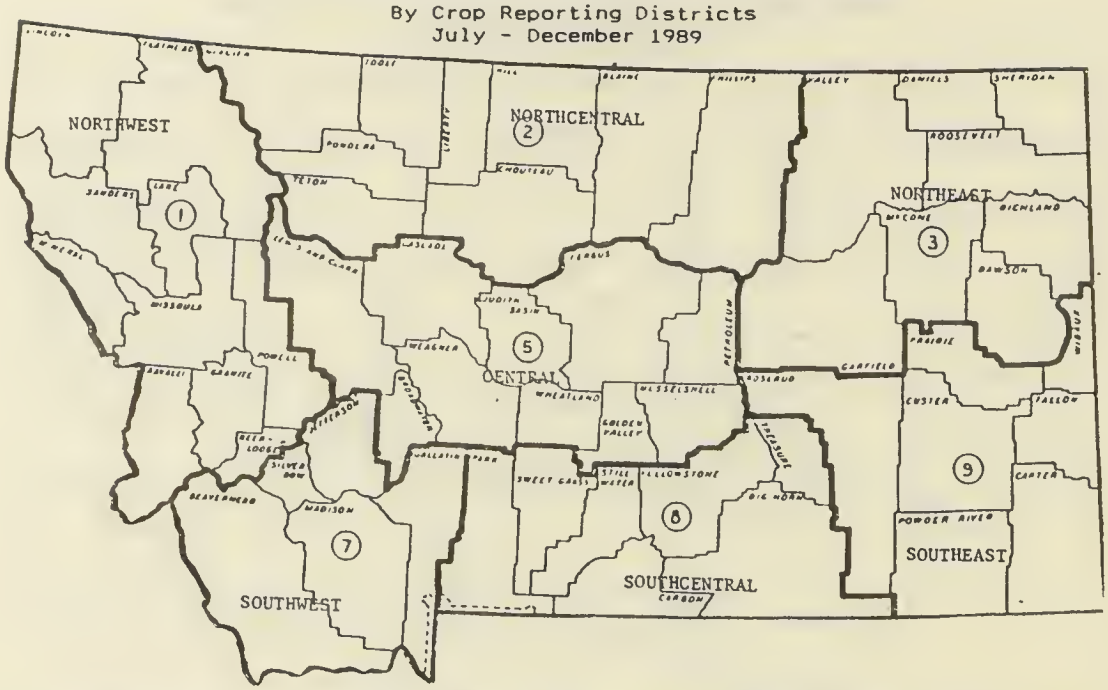
YEAR	TONNAGE
1972	226,939
1973	268,061
1974	219,197
1975	170,324
1976	283,925
1977	259,211
1978	301,487
1979	324,838
1980	295,958
1981	363,295
1982	384,387
1983	447,407
1984	406,567
1985	325,887
1986	337,626
1987	393,505
1988	279,616
1989	395,033

FERTILIZER AND FERTILIZER MATERIAL SOLD IN MONTANA
By Crop Reporting Districts
January - June 1989



STATEWIDE TOTAL	SOUTH WEST	NORTH WEST	SOUTH CENTRAL	CENTRAL	NORTH CENTRAL	SOUTH EAST	NORTH EAST	TOTALS
Anhydrous Ammonia	500	666	496	2511	7770	456	393	12792
Ammonium Nitrate	11310	3618	16630	7578	11171	618	1630	52555
Ammonium Sulfate	1428	2248	512	784	2555	46	548	8121
Urea	1136	2006	3962	10077	17587	1384	5695	41847
Ammonium Thiosulfate	151	23	0	211	841	0	2	1228
Nitrogen Sols. 32%	281	7	375	258	1684	0	0	2605
Nitrogen Sols. 28%	546	105	0	63	3086	268	1012	5080
Phosphorus Material	466	293	745	611	5869	269	12	8265
Potash Materials	1624	2100	2636	2042	4709	784	1080	14975
Sulfur	47	91	54	46	224	15	64	541
DAP 18-46-0	1288	549	4476	3173	5561	2074	9456	26577
MAP 11-52-0	3879	2251	3645	7670	21250	680	3580	42955
APS 16-20-0	4022	2634	1113	591	1313	0	34	9707
30-10-0	0	0	20	0	0	0	7	27
10-34-0	119	24	56	11	4814	9	759	5792
2-1-0 ratios (27-14-0)	168	74	60	36	38	1	0	377
1-1-0 ratios (23-23-0)	0	0	0	672	76	0	15	763
1-1-1 ratios (16-16-16)	1	236	1	1	6	2	53	300
Micronutrients	50	49	177	173	148	11	55	663
Gypsum/Lime	7	87	13	0	0	4	2	113
Compost	0	1200	0	0	0	0	0	1200
Other	11	88	33	15	384	23	281	835
TOTAL	27034	18349	35004	36523	89086	6644	24678	237318

FERTILIZER AND FERTILIZER MATERIAL SOLD IN MONTANA
By Crop Reporting Districts
July - December 1989



STATEWIDE TOTAL	SOUTH WEST	NORTH WEST	SOUTH CENTRAL	CENTRAL	NORTH CENTRAL	SOUTH EAST	NORTH EAST	TOTALS
Anhydrous Ammonia	659	53	2481	5059	20356	610	267	29485
Ammonium Nitrate	1628	663	4508	660	2401	559	899	11318
Ammonium Sulfate	693	579	535	280	732	14	113	2946
Urea	1944	598	2966	9362	11280	750	3506	30406
Ammonium Thiosulfate	203	116	0	117	646	1	-12	1071
Nitrogen Sols. 32%	845	203	447	157	1645	0	-15	3282
Nitrogen Sols. 28%	29	24	652	61	1273	96	1010	3145
Phosphorus Material	4	45	91	1029	2721	30	13	3933
Potash Materials	650	539	1305	435	1623	654	968	6174
Sulfur	34	18	95	1	76	3	359	586
DAP 18-46-0	489	230	6393	2913	1953	1349	6010	19337
MAP 11-52-0	2185	978	2796	7744	16657	566	2491	33417
APS 16-20-0	1663	251	854	479	762	82	418	4509
30-10-0	0	0	0	0	0	0	11	11
10-34-0	525	9	10	137	1231	0	488	2400
2-1-0 ratios (27-14-0)	18	5	0	53	1806	0	12	1894
1-1-0 ratios (23-23-0)	0	0	52	2487	54	0	37	2630
1-1-1 ratios (16-16-16)	1	39	1	0	0	0	13	54
Micronutrients	13	52	58	8	12	7	31	181
Gypsum/Lime	0	58	39	0	0	2	14	113
Compost	0	306	0	0	0	0	0	306
Other	24	10	7	52	585	26	83	517
TOTAL	11607	4776	23290	30930	65813	4749	16550	157715

MONTANA DEPARTMENT OF AGRICULTURE
FERTILIZER AND FERTILIZER MATERIAL SOLD IN MONTANA
FOR THE YEAR
1989

MATERIAL	JAN - JUNE	JULY - DEC	TOTAL
Anhydrous Ammonia	12792	29485	42277
Ammonium Nitrate	52555	11318	63873
Ammonium Sulfate	8121	2946	11067
Urea	41847	30406	72253
Ammonium Thiosulfate	1228	1071	2299
Nitrogen Sols. 32%	2605	3282	5887
Nitrogen Sols. 28%	5080	3145	8225
Phosphorous Materials	8265	3933	12198
Potash Materials	14975	6174	21149
Sulfur	541	586	1127
AMMONIATED PHOSPHATES & MIXTURES			
DAP 18-46-0	26577	19337	45914
MAP 11-52-0	42955	33417	76372
APS 16-20-0	9707	4509	14216
30-10-0	27	11	38
10-34-0	5792	2400	8192
2-1-0 ratios (27-14-0)	377	1894	2271
1-1-0 ratios (23-23-0)	763	2630	3393
1-1-1 ratios (16-16-16)	300	54	354
Micronutrients	663	181	844
Gypsum/Lime	113	113	226
Compost	1200	306	1506
Other	835	517	1352
TOTAL	237318	157715	395033
Total Nitrogen	63835	54019	117854
Total P205	42561	30693	73254
Total K20	9069	3756	12825

MONTANA DEPARTMENT OF AGRICULTURE
PLANT INDUSTRY DIVISION
AGRICULTURE/LIVESTOCK BLDG.
CAPITOL STATION
HELENA, MT 59620

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